DATA SHEET

FUSED QUARTZ
VITREOSIL® 077

Vitreosil® 077 Optical Fused Quartz

Vitreosil® 077 optical fused quartz is manufactured by flame fusion of naturally occurring high-purity quartz crystal. Vitreosil® 077 has a useful transmission range from <260 nm in the near UV through to >2 000 nm in the infrared.

* The optical properties of re-drawn rod and tube are not as shown in the table below

Vitreosil® 077 high-purity fused quartz has a useful transmission range from <260 nm in the UV to >2 000 nm in the infrared

Optical PropertiesTypical Chemical Analysis

Vitreosil®Grade	**077**
Bubbles	
Bubble class (DIN 58927)	0..1
Sum of CSA (mm^2 / 100 cm^3)	< 0.1
Maximum bubble diameter (mm)	0.5
Maximum number of inclusions (0.1 - 0.2 mm per 100 cm^3)	2
(Bubbles and inclusions < 0.1 mm are not counted)	
Striae (MIL-G-174A) in functional direction (i.e. direction of view) (The direction of view should be specified at time of enquiry / order)	B
Granularity	Faint
Residual strain (nm/cm)	< 5
Fluorescence (254 nm excitation)	Blue / Violet
Radiation resistance	
UV	Slight darkening after prolonged exposure
X-Ray & Gamma Ray	Darkens after 10^7 RAD

	Vitreosil®077
	Typical trace elements in ppm †
Al	15
Ca	0.5
Cr	< 0.01
Cu	< 0.01
Fe	0.1
K	0.2
Li	0.2
Mn	0.01
Na	0.1
Nd	0.01
Ti	1.3
Y	< 0.1
Zr	1.3
OH	170

† Chemical analysis can vary slightly between individual batches of material

Thermal Data

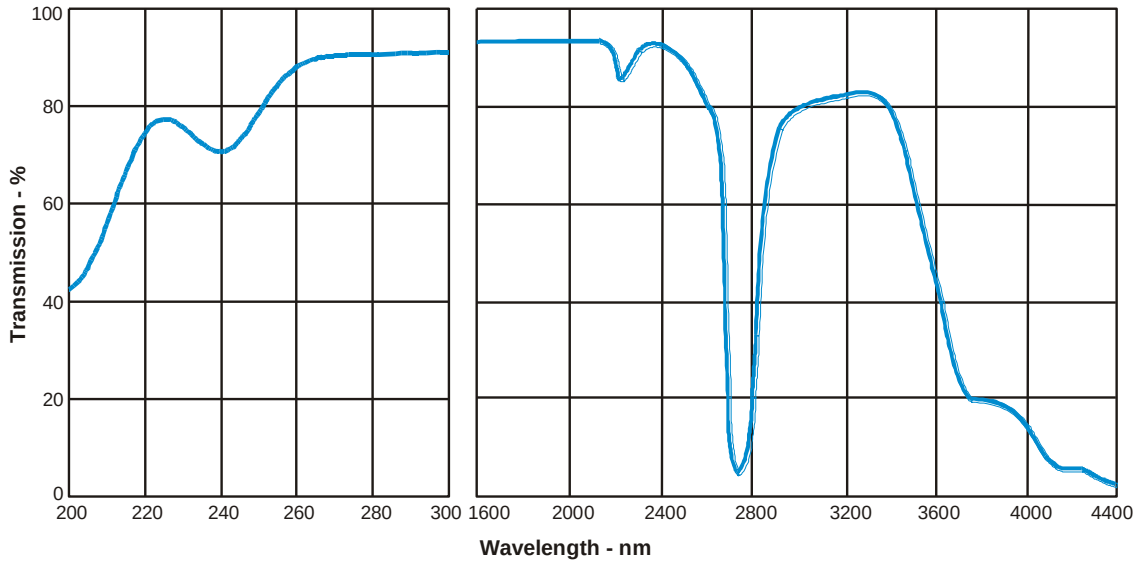
Strain Point ‡	1085oC
Annealing Point ‡	1195oC
Softening Point ‡	1730oC

Thermal Expansion
Coefficient (Average) 0.54 x 10-6

‡ Note that these values may vary, depending on the thermal history of the glass

Transmission

Typical external transmission of Vitreosil® 077 fused quartz (including Fresnel reflection losses for 10 mm pathlength)



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